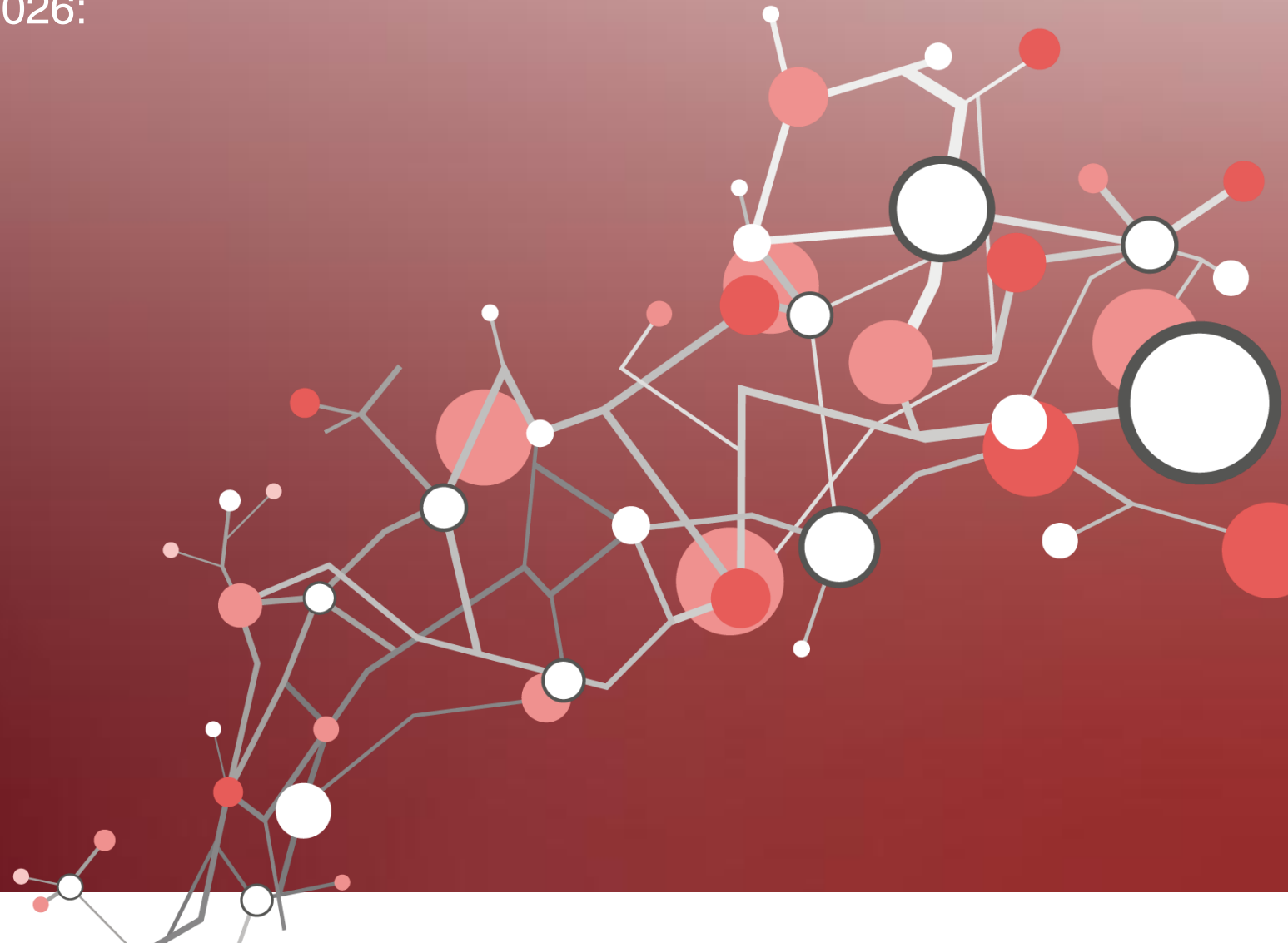


MultiClient Study  
Digital Solutions in the Railway Sector 2026:  
Market Potential and Outlook

**SCI** / Verkehr

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## New MultiClient Study: Digital Solutions in the Railway Sector 2026 – Market Potential and Outlook

“

Digitalisation is no longer an optional future topic in the rail sector, but a fundamental prerequisite for managing rising complexity and demand.

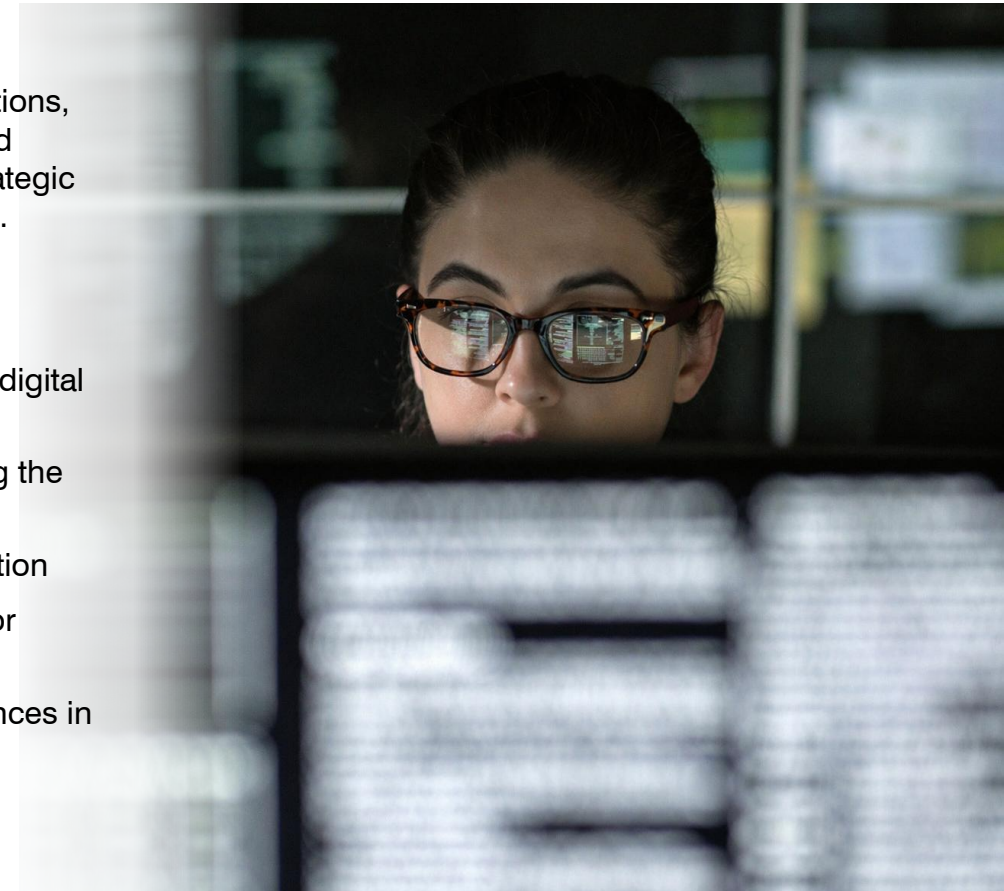
”

Maria Leenen, CEO of SCI Verkehr

The study is aimed at providers of digital solutions, railway operators, infrastructure managers and investors, and offers a sound basis for the strategic positioning of the market and its development.

### Key contents of the study:

- Definition and delineation of the market for digital solutions in the railway sector
- Classification of key application areas along the value chain
- Analysis of drivers and barriers to digitalisation
- Market volume and development outlook for digital solutions up to 2035
- Regional market developments and differences in the supplier landscape
- Example use case: WILSON.Share



## Railways are moving from low digital maturity to clearly defined digital target visions

**Worldwide market volume for digital solutions in the railway sector (2025)**

**EUR 20 billion**

**Infrastructure**

(e.g. digital train control, infrastructure monitoring, station crowd flow analytics),

**Rolling Stock**

(e.g. health monitoring, automated inspection, track & trace for wagons)

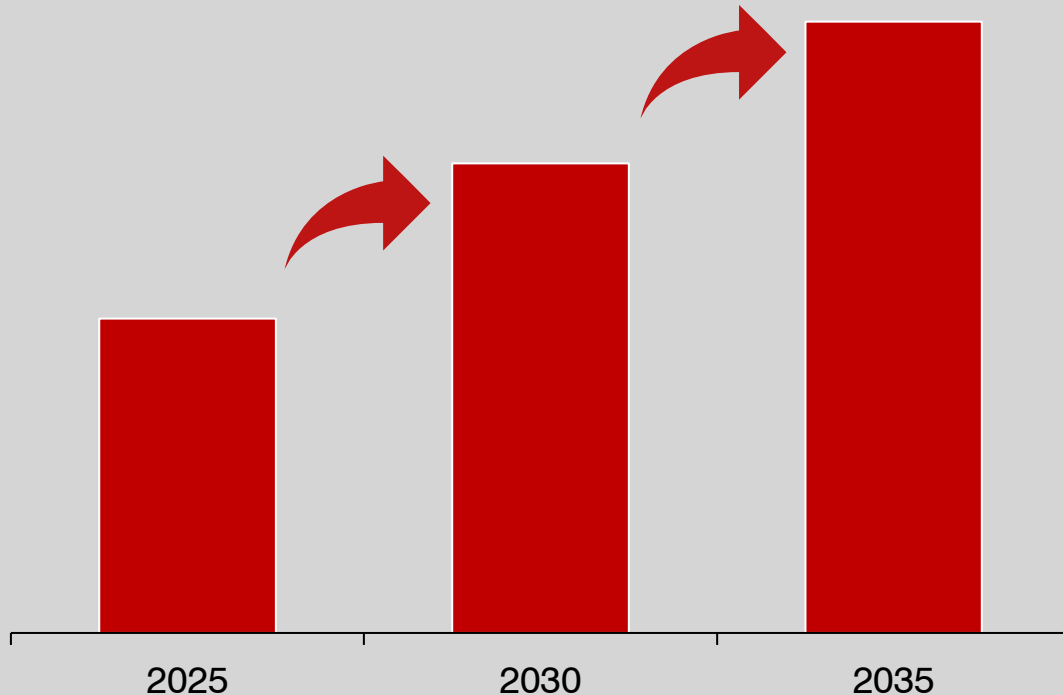
**Businesses / Enterprises**

(e.g. capacity planning & timetabling tools, digital ticketing and fare payments)

- **China Railways** invests in AI, smart train control ...
- **Riyadh Metro** represents a fully integrated ...
- **Deutsche Bahn's** digital strategy is centred on ...
- **Indian Railways** focuses on digital signalling and safety systems such as ...
- **Class I freight railroads** in North America are investing primarily in ...
- **RZD in Russia** is pursuing a digital strategy that ...
- **Tokyo Metro** is investing in ...

The market is shifting towards integrated, data-driven systems that improve capacity, availability and service quality across the railway value chain

**Market volume development by segment**  
(EUR billion)



The global railway digitalisation market is set for strong growth through 2035, driven by distinct dynamics across three segments:

- **Infrastructure:** Growth is primarily driven by ...
- **Business / Enterprise:** The main growth driver is ...
- **Rolling Stock:** The key trend is the shift toward ...

Source: SCI estimate

# 1

## Definition & applications along the value chain

### Key questions addressed in this chapter:

- How is the market defined?
- How is the market segmented?
- Where can digital solutions be positioned along the value chain?
- What benefits does digitalisation create in the rail sector?
- What demand (functional needs) and supply (products) exist along the value chain?

The market definition focuses on the key element of the railway sector: transporting goods and passengers – the relevant market is restricted to digital solutions that are **specific to railways**



Digital solutions in railways are **technology-based systems and applications** that use software, data, and connectivity to **improve** the planning, operation, maintenance, and customer experience of rail.



#### In scope

- digitalisation of infrastructure and rolling stock assets
- Rail-specific business applications (e.g. planning, ticketing, operations)
- Hardware, software, and services
- System-critical technologies such as ETCS

#### Out of scope

- Construction and engineering of infrastructure and rolling stock
- Non-rail-specific functions (e.g. accounting, HR, administration)
- Civil works related to digital deployment (e.g. cabling, ground works for interlockings)

#### Market segmentation

- **Infrastructure** refers to the digitalisation of tracks and related infrastructure assets, such as interlockings, signalling systems, as well as stations and shunting yards; telecommunications systems, such as FRMCS
- **Rolling Stock** covers the digitalisation of trains and vehicles, including onboard systems, connectivity (e.g. Wi-Fi), and tracking and tracing solutions.
- **Business / Enterprise** includes the digitalisation of rail-specific processes, such as fleet management optimization, ticketing, and resource planning. Moreover, digitalisation of workshops and the non-sensor part of CBM is part of this segment.

Some solutions span multiple segments. For example, a system improving freight wagon availability may combine tracking and tracing (assigned to rolling stock) with software for fleet optimization (assigned to business/enterprise).

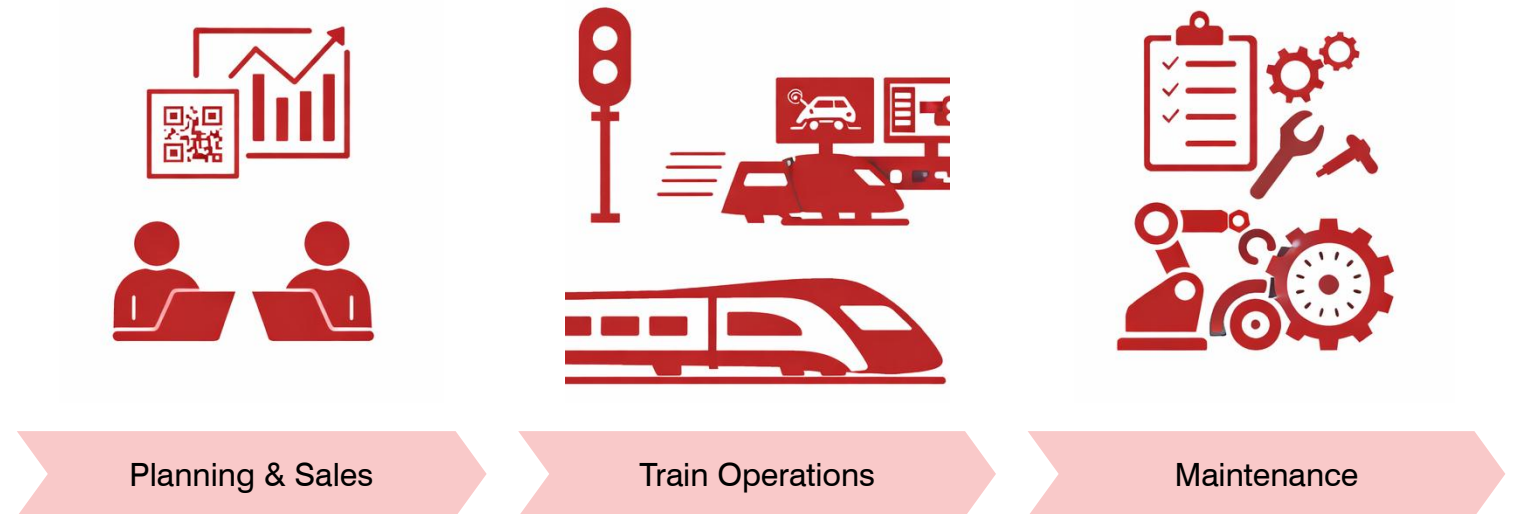
# SCI Verkehr structures digital applications along the value chain and across segments – each application is analysed in terms of functions & impacts, with results presented in the following pages

To provide a structured overview, digital applications in the railway sector are mapped along the **value chain** – from **Planning & Sales** to **Train Operations and Maintenance**.

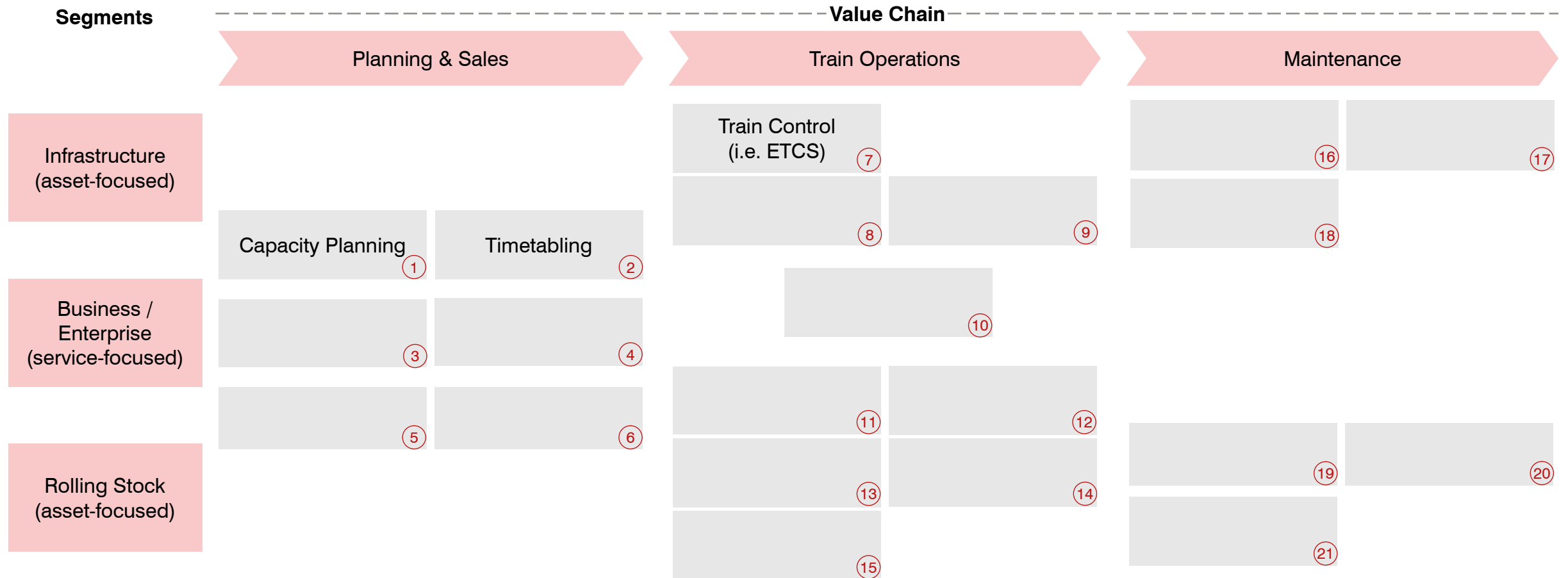
At the same time, the market is segmented into:

- Asset-related systems, linked to physical railway assets (infrastructure and rolling stock)
- Business/enterprise systems, focused on operational and commercial processes

This structure allows a clear positioning of use cases across both value chain steps and market segments, highlighting where digitalisation creates value within the railway system.



# Digitalisation efforts can be observed in all steps of the value chains before, during and after train operations



(X) Numerical mapping in the matrix

# 2

## Market drivers & obstacles

**Key questions addressed in this chapter:**

- Which factors accelerate or hinder digitalisation?
- How are these factors expected to develop in the future?
- What impact do they have on market development?

Common drivers and obstacles exist globally – their impact varies by region and is analysed in Chapter 3

✓ Drivers

- Safety & reliability goals
- Capacity constraints & demand growth
- ...

⚡ Obstacles

- High investment needs and lack of state funding (to some extent)
- Skills shortages
- ...

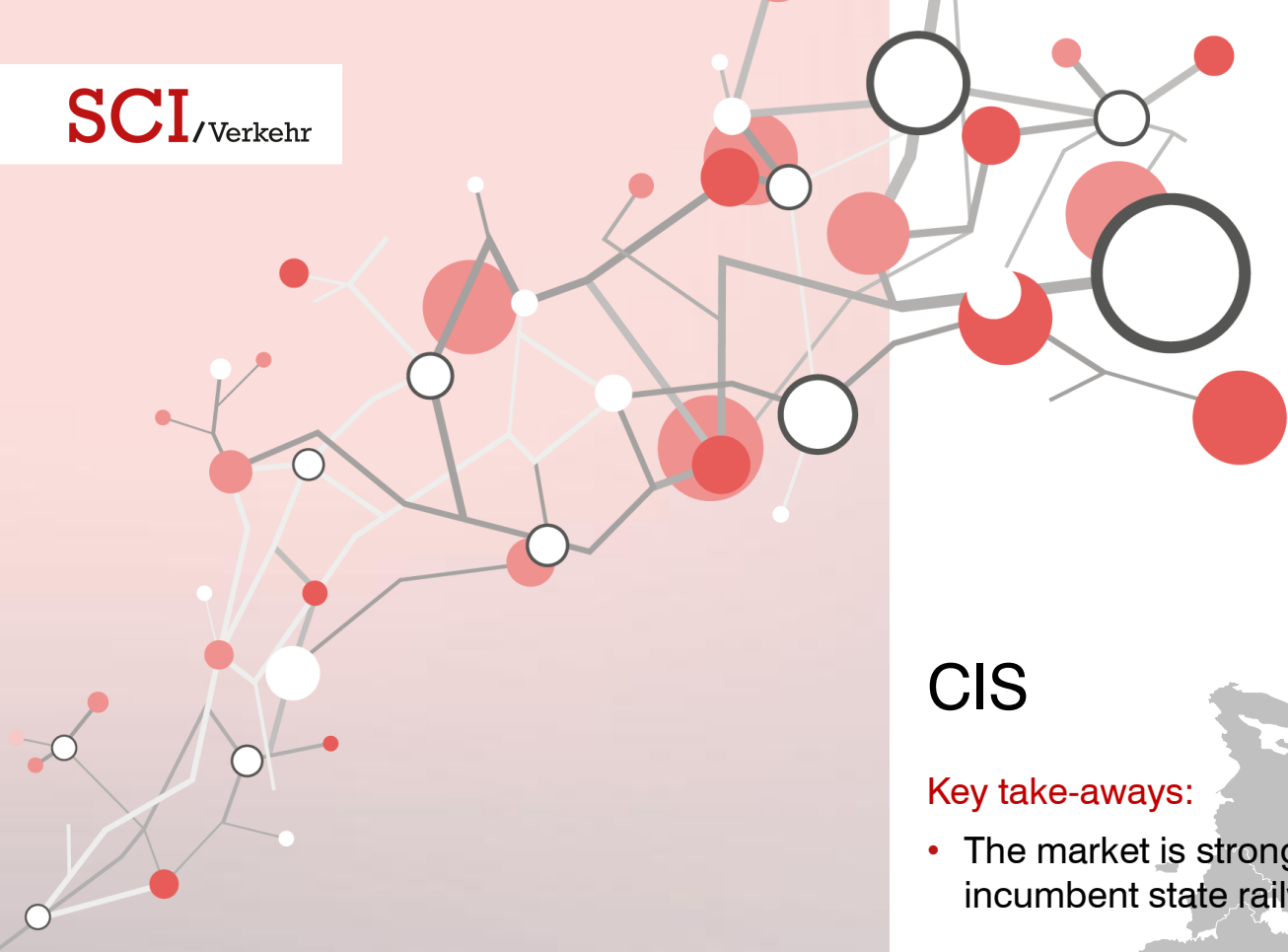


# 3

## Market volumes & world regions

### Key questions addressed in this chapter:

- What is the current market size?
- How does the market size differ by segment?
- How are market volumes expected to develop by segment and region?
- How is the supplier landscape for digital solutions structured?
- Which drivers and obstacles are region-specific?



## CIS

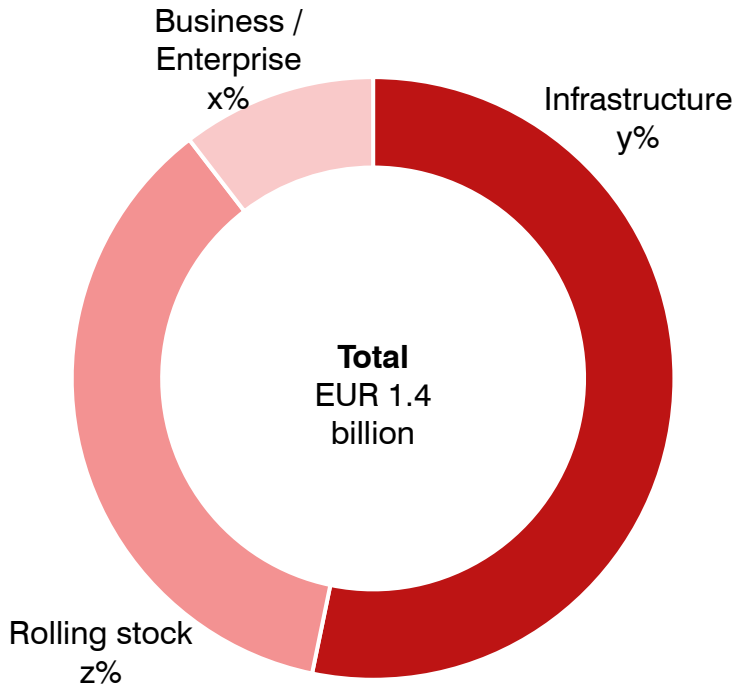
### Key take-aways:

- The market is strongly shaped by incumbent state railways, which ...
- Automation is a key theme in flagship projects, particularly in Russia, as ...

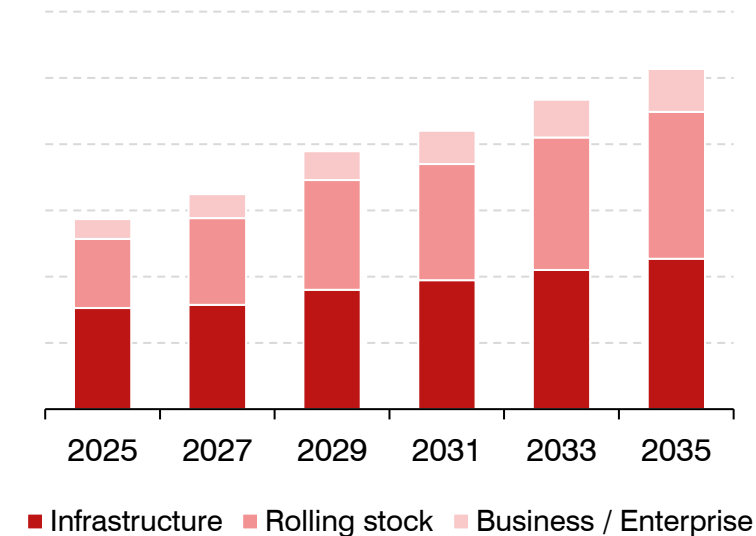


CIS: Large rail footprint but low digital maturity – market at EUR 1.4 billion today, growing to approximately ...

CIS – market volume by segment 2025



Market volume development by segment (EUR billion)



Growth rate by segment	Infra-structure	Rolling stock	Business / Enterprise
CAGR 2025-2035	...	...	...

Main drivers

- **Legacy obsolescence:** Digitalisation is mainly embedded in modernisation/new-build programs to replace outdated control and operations solutions.
- ...

Main obstacles

- **Data silos:** No uniform data platform and transparency across operators; cross-border interoperability & governance complexity
- ...

Source: SCI Verkehr estimate

## The CIS supplier landscape is state-centric and incumbent-driven – increasing localisation and reduced Western participation

### Selected established rail technology leader



RZD and its subsidiaries such as NIIAS and RZD Technology form the core of the CIS rail digital ecosystem. These entities develop and implement **in-house digital solutions** across infrastructure, operations and maintenance. The focus lies on traffic control, digital dispatch, asset management tools and enterprise IT solutions.



A key example is ...



Ukrzaliznytsia is the central rail operator in Ukraine and is advancing the **digital transformation** of its operations and IT systems supported mainly through internal IT structures, aiming to modernise legacy infrastructure and support future integration with the European rail network.



**Central digital platform (“e.Portal UZ-Cargo”)**, a single digital window for freight customers, replacing legacy systems, enabling booking, contract management, electronic document exchange and real-time tracking of transport processes.



Transmashholding Smart Systems develops **intelligent onboard control systems, diagnostics platforms and digital train management** solutions integrated directly into locomotives and multiple units.



An example is the...



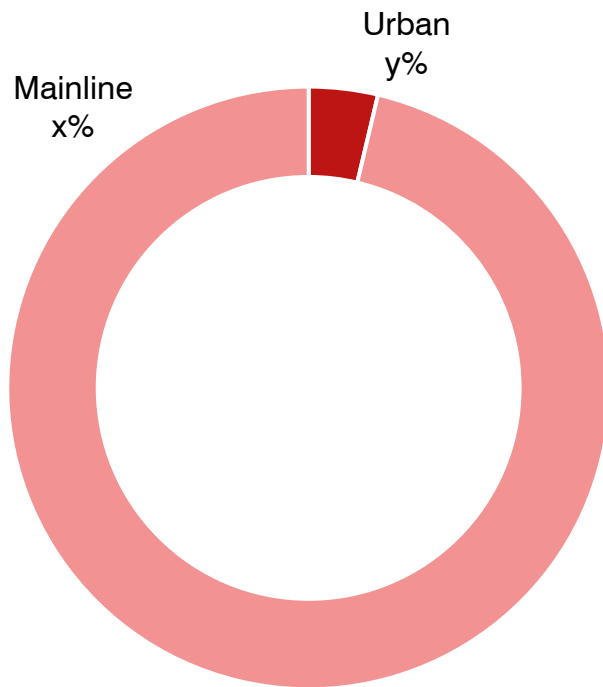
ELTEZA is a major Russian supplier of signalling and automation equipment, closely linked to RZD. The company provides **modern train control systems, interlocking solutions and infrastructure automation**.



A key example is the rollout of...

## The market volume of the Infrastructure segment reached ...

### CIS – infrastructure market volume by subsegment

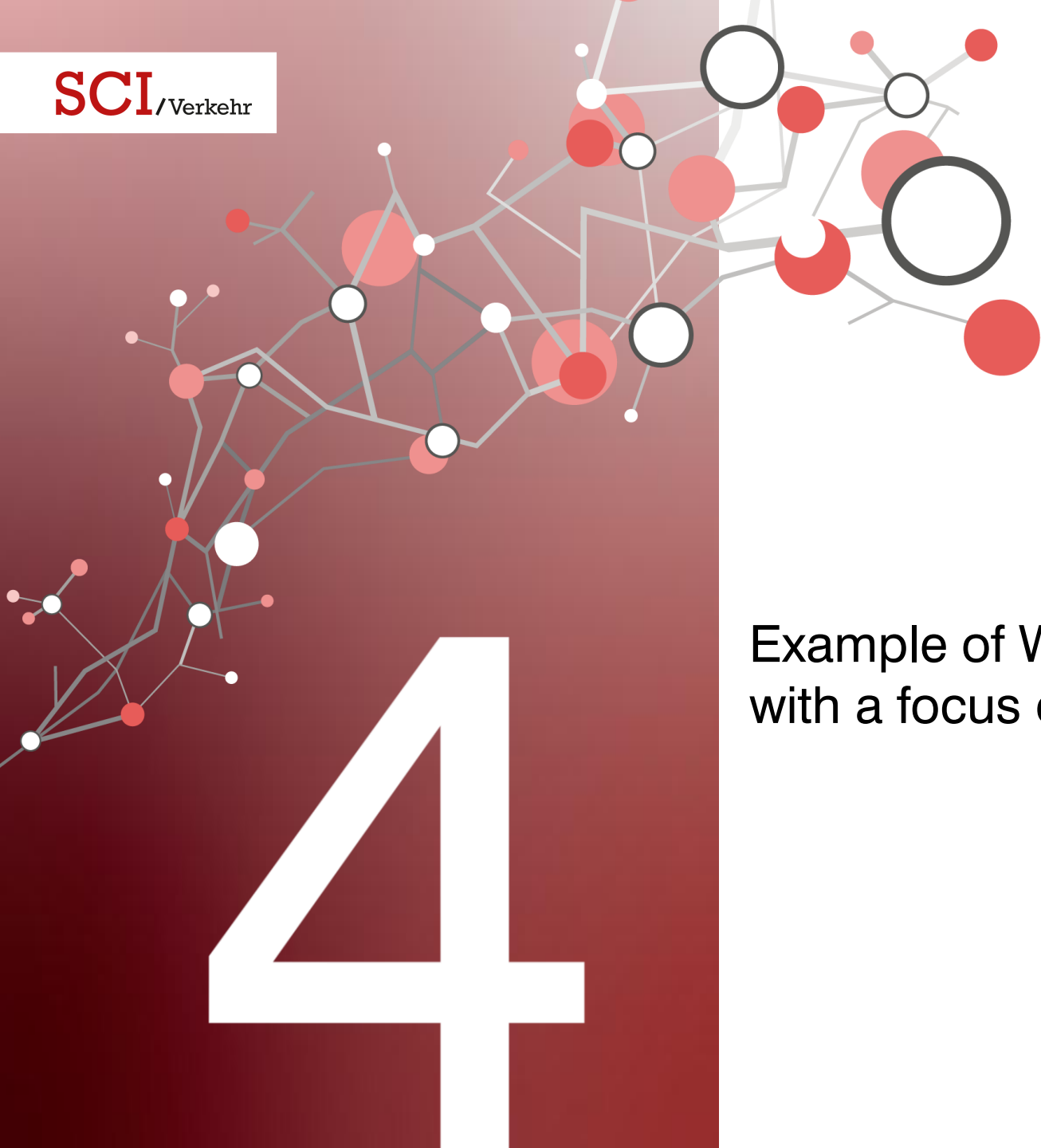


### Example projects:

- RZD is implementing a fully **digital marshalling yard** (scheduled operation in 2026). The project combines 25 hard-/software complexes and 14 automated systems for controlling shunting locomotives and sorting processes, including robotic coupling and vehicle condition monitoring.
- Huawei and KTZ have agreed to ...
- The Moscow Metro plans to ...

### Demand:

- Demand in the infrastructure segment is primarily driven by state-owned incumbents such as RZD and KTZ. Infrastructure digitalisation is therefore closely linked to national transport strategies and government funding programmes.
- ...



Example of Wilson share  
with a focus on economic analysis

WILSON.Share is a digital platform for **cross-company workforce deployment** in rail freight – SCI Verkehr was part of the pilot project and responsible for the economic feasibility analysis

**What is WILSON.Share?**

- Digital platform for cross-company locomotive driver deployment
- End-to-end workflow: onboarding & qualifications, matching, live shift execution & documentation
- Reduces manual coordination and enables short-notice scaling (within regulatory constraints)

↳ **digital coordination & compliance platform, rather than a staffing agency model**

**Why is it relevant?**

- Cross-company deployment exists, but is manual, fragmented and not scalable
- Rail freight faces structural workforce constraints (shortages, peaks, volatility)
- Digital coordination improves utilisation, reduces disruptions, and lowers administrative effort

↳ **because workforce coordination becomes digital asset, not an ad-hoc workaround**

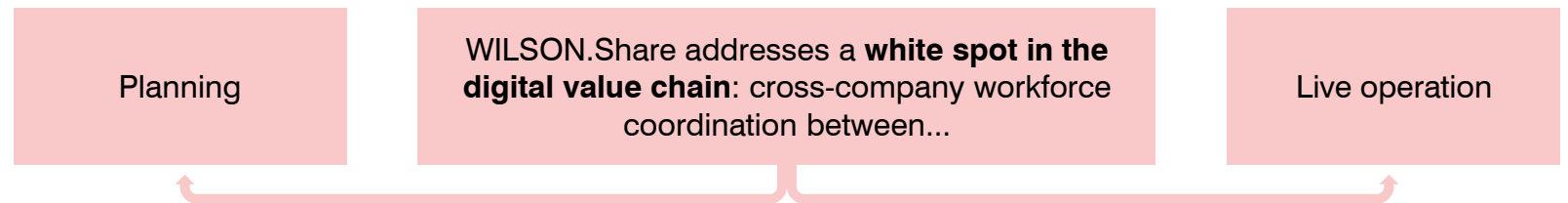
**What was proven?**

- Cross-company deployment can run on one platform under real operating conditions
- Can be legally viable if governance, right of direction and GDPR are embedded
- Delivers measurable operational value in selected use cases

↳ **economic value exists at scale, digital feasibility is given**

**Project context & positioning**

- Part of SGV-Z: (Schienengüterverkehr der Zukunft)
- Objective: promotion of innovation, real-life testing and publication of results for the sector
- Role of SCI: Assessment of economic feasibility and analysis of scalability beyond the pilot



**WILSON.Share demonstrates that digital platforms can unlock workforce flexibility in rail freight – if regulatory, organisational and system interfaces are addressed jointly.**

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